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ABSTRACT

The characteristics of the talent pool that will be available to the teaching profession is largely controlled by institutions and agencies that either have only a passing interest in the education of teachers (major universities) or by those that have a vested interest in maintaining the status quo (schools of education that are dependent on filling their classes with students). The public schools have been encouraged to develop reward systems aimed more at recruiting new teachers than at maintaining or motivating them. Given the perception that many teachers are marginally qualified, administrators receive more status and rewards than teachers. The organizational structure of schools provides few meaningful ways of promotion and advancement, other than by renouncing teaching and becoming an administrator. Sex stereotyping has encouraged administrators to believe that teachers generally are inadequate managers and has encouraged teachers to believe that administrators are bosses rather than colleagues. The net effect is to discourage entrance into teaching and to encourage bureaucratic solutions, cynicism, and a lack of intellectual leadership in schools of education and in the public schools. By conceptualizing schools as workplaces and students as the primary workers, the role of oridinary classroom teachers becomes that of a first-line supervisor as opposed to a low-level employee. Responsibility for the professional training of teachers should be divorced from institutions of higher education and teacher education should once again be placed where it in fact occurs: in the public schools. (JD)

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Recruitment, Selection and Retention: The Shape of the Teaching Force

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There are at least two ways of approaching the question of teacher competence. The most common approach concentrates on the personal characteristics and professional preparation and skills of those who teach. The assumption is that teacher competence is primarily an individual matter determined by a combination of individual attributes and acquired skills. The second approach, and the approach taken in the present paper, is well stated by Dreeben (1970) when he writes:

> Although there is much to be said for showing concern about the competence of teachers, the question of competence may be more fully understood in terms of the occupational characteristics of teaching rather than in terms of the curriculum of teacher training institutions... Problems of competence grow out of the relationship among schools of education, universities, and school systems; between training institutions and prevailing career patterns; and from the way these institutions shape the occupation and its members (p. 118).

The remainder of this paper will be organized around three general considerations. First, some general issues about teacher quality will be discussed. Second, the present shape of the teaching corps will be discussed, and some of the qualities and characteristics of those who presently occupy teaching positions will be described. Finally, the question "Why are things as they are and what would need to be done if one desired to alter some of or all of the patterns that presently seem to exist?" will be considered.

The Issue of Teacher Quality: A Preliminary View

Concern over the competence of classroom teachers is not new in America. Icabod Crane was more than just a pathetic figure who spent classroom time trimming the quill pens of his students. He conveyed an image many thought to be typical of male teachers at the

time. In 1932, Willard Waller characterized what he took to be the prevailing stereotype of the teaching occupation as an occupation comprised of unmarriageable women and unmarketable men. In 1956, William H. Whyte said in The Organization Man:

> It is now well evident that a large proportion of the younger people who will one day be in charge of our secondary school system are precisely those with the least aptitude for education of all Americans attending college (p. 83).

Koerner's Miseducation of American Teachers (1963) was not only a scathing indictment of teacher education; it also contained strong criticism of the qualities and characteristics of those who taught in American schools. Indeed, much of the reform movement in American Education in the 1960's was predicated on the assumption that the qualities and qualifications of those who occupied classrooms were less than desirable. The Master of Arts in Teaching Programs and Teacher Corps, for example, resulted from the belief that a new breed of teachers was needed in the classroom. NDEA and NSF summer institutes were created on the assumption that American teachers were inappropriately trained or woefully undertrained. Thus only a person suffering from historical amnesia would suggest that recent indictments of teachers and teacher education are without precedent.

Until the past decade, however, quantitative issues (i.e., assuring an adequate supply of teachers) were so overwhelming that serious consideration of qualitative issues was often sublimated or given secondary importance. In 1950 for example, only 21 states required elementary teachers to have a baccalaureate degree and 42 states required secondary teachers to have a baccalaureate degree (Armstrong and Stinnett, 1964). Even with these low standards

there were many teachers who were underqualified and teaching on non-standard certificates. Thus increasing the quality of teachers during the period 1950-70 meant primarily, though not exclusively, increasing the quantity of college graduates ready and willing to accept teaching positions.[1]

From the early 1970's on, the discussions of teacher quality became more clearly focused on selecting the best qualified from an over-abundant pool of college educated recruits. From the perspective of many, the apparent oversupply of persons possessing a college degree who were willing to teach made it possible, at long last, to make teaching the selective occupation many critics and professional educators argue it should be. Thus, for many, "solving" the quantitative problem of teacher supply laid the base for addressing more qualitative issues. "Solving" the problem of teacher supply also laid the base for a more personal and threatening form of criticism of teachers and teacher education institutions. For example, during the 1950's classroom teachers who did not possess college degrees may have felt threatened by charges that they were professionally unqualified or underqualified. In addition critics like Koerner may have caused some who attended teacher colleges to be concerned that their degrees were not worth as much as degrees from liberal arts colleges. However, the general shortage of college educated persons available to teaching served to assure underqualified teachers that there was little likelihood they would be dismissed from their jobs. Similarly, the growing size of college populations served to assure faculties of even the weakest teachers' colleges that their place of employment was secure. Indeed, the most typical response to charges that individual teachers were unqualified was to provide

underqualified teachers with stipends to attend university programs intended to update and upgrade their qualifications. Institutionally, a common response was to change the character of teachers' colleges so that they reflected - or could be argued to reflect - more of the character of real universities. For example, in 1940, there were 140 teachers' colleges. By 1971, there were only sixteen institutions of higher education that retained a teachers' college identity (Haberman and Stinnett, 1973, Teacher Education and the New Profession of Teaching). Teachers colleges did not go out of business. Rather, many became, by legislative mandate, emerging universities. The assumption was that by making teachers' colleges multi-purpose universities, the education of teachers would be improved. Simultaneously, the creation of these new universities made it possible to meet the other demands population expansion was placing on institutions of higher education.

The contemporary scene is substantially different from the 1950's. Now there are too many college spaces. The teacher shortage has been relieved, at least temporarily. These facts, coupled with demands for accountability and fiscal retrenchment, make discussions of personal or institutional quality threatening to the job security of persons and the survival of institutions. It is little wonder, therefore, that the historical debate regarding the quality of teachers is more shrill today than it was in the past, for the job security of men and women and the survival of institutions are at stake.

Academic Ability and the Quality of Teaching

Teachers have never been drawn from that segment of the American

population with the greatest aptitude for academic pursuits. Since the mid 1920's, empirical studies have shown that, as a group, those who enter teaching score less well on measures of academic ability than do other college graduates. Some studies, in fact, have indicated that the measured academic ability of the average teacher was no higher than the measured academic ability of the average high school graduate who did not attend college (Leonard and Wood, 1938). Other studies indicate that the measured academic performance of a substantial portion of the teachers (from one third to one half) is lower than over half of the high school graduates (Lyons 1980). Other studies clearly indicate that teachers are drawn from among the least academically able college students (Weaver, 1979; Vance and Schlechty, 1982).

Critics of teachers and teacher education use such data as evidence that the quality of teachers is less than desirable. Those who defend teachers and teacher education sometimes argue that the data base from which critics proceed is not valid. More frequently, however, the defenders of teachers accept the data base as valid and question the assumption that academic ability is an indicator of teaching success.

In the present paper, a great deal of emphasis will be placed on the fact that, as things now stand, teaching does not attract recruits from among the more academically able segments of the population. Given this emphasis it is essential that we set forth early reasons for assuming that the academic ability of teachers is an important concern.

First, there is no evidence that the lack of academic ability

makes one a more competent teacher. Furthermore, to the extent that evidence links academic ability to teacher performance, the evidence tends to link success in teaching to the academically able rather than the academically less able. For example, in his famous studies of the characteristics of teachers, Ryans (1960) found that those teachers who were identified as outstanding typically scored higher on tests of verbal ability than did their colleagues. The study by Levin (1970) discussed later in this paper supports a similar conclusion. There are other studies that support similar conclusions (Coleman et al, 1966; Bowles and Levin, 1968; Hanuchek, 1970; Guthrie et al, 1971).

Second, even if measured academic ability is not causally linked to teaching performance, the fact that teaching is unattractive to the more academically able and disproportionately attractive to the less able creates a significant public relations problem for the teaching occupation and probably serves to discourage many potentially competent teachers from pursuing careers in teaching. There can be little doubt that data like those reported in the Dallas school system as well as data reported by Weaver (1979) and Vance and Schlechty (1982) can be used to bolster criticisms of teachers and teacher education. It also seems clear that such criticisms do much to discourage competent and dedicated teachers from remaining with the job. Similarly, such data must also discourage potential recruits from pursuing a career in which they are likely to be stigmatized as being among the least able of all college graduates.

Third, the status and prestige of institutions of higher education and departments within those institutions depend in large measure on the perceived academic quality of the students who are attracted to those institutions and departments. The most concrete measures of the academic quality of persons attracted are, and probably will remain, measures of academic ability like the SAT and GRE. So long as teacher education institutions and departments continue to recruit a preponderance of their students from among those who score least well on measures of academic ability, it is unlikely that these schools and departments will achieve the stature within the higher education establishment that would be required for teacher education to command the respect and resources needed for excellence.

Finally, the fact that the experienced pool of teachers is less able than the pool of recruits (Schlechty and Vance 1981, Vance and Schlechty, 1982) creates serious problems for graduate study in education and discourages high quality researchers and scholars from taking the business of teacher education seriously. For example, schools of education and departments of education are presently under considerable pressure to lower standards of admission to graduate study in order to maintain graduate enrollment. A part of this pressure is a result of the decline in the number of new teachers entering the field. However, most of this pressure results from a decline in the quality of the pool of teachers who stay in the occupation (Vance and Schlechty, 1982).

Graduate study in education has never been viewed with great warmth on high prestige campuses. Given the declining academic

quality of teachers reported in this paper and elsewhere (e.g., Weaver, 1979), it is reasonable to suggest that the first victims will be schools and departments of education in high prestige institutions of higher education. In a time of budget reductions, high prestige institutions are likely to concentrate their cuts on those departments and schools that bring them the least repute. They will certainly not support departments that associate them with stigmatized occupations. So long as teacher education recruits students from among those college entrants who are least able, teacher education will be tied to an occupation that carries a stigma in the academic market place and is relegated to schools and departments that need students at least as badly as the students need them.

In sum, to fail to be concerned about the relative inability of the teaching occupation to attract more academically able students and the concurrent tendency for the least academically able to enter teaching is to fail to take into account the fundamental fact that public schools, afterall, are embedded in the pecking order of the academy. Whether public schools will do well or poorly in this status system depends in large measure on the success public schools have in attracting and retaining those persons with demonstrated aptitude for academic tasks.

The Shape of the Teaching Corps

The characteristics of the members of any occupation are determined by three basic facts:

1. The characteristics and qualities of those who are recruited to the occupation.

2. The characteristics and qualities of those who are selected to the occupation from among those recruited.

3. The characteristics and qualities of those the occupation is able to retain as continuing members from among those selected.

Between 1950 and 1970, one could gain a reasonable approximation of the character of the teaching corp by attending to the qualifications and characteristics of new recruits. The reason this was so is that the rapid growth of the teaching corps during this period overwhelmed almost every other condition in teaching. For example, between 1950 and 1960, the size of the teaching corps grew from 913,671 to 1,355,000, an increase of 48%.[2] Between 1960 and 1970, the size of the teaching corps grew from 1,355,000 to 2,061,115, an increase of 52%. In 1969, there were approximately two million (2,014,000) teachers teaching in the public schools, whereas in 1979 there were approximately 2.15 million (2,148,000) teachers teaching in the public schools. In 1969, the public schools employed 253,000 new teachers. Thus, in 1969, the characteristics and qualifications of more than 10% of the teaching force could be changed through recruitment strategies alone. Nowadays, one who is interested in projecting the characteristics of the teaching corps a decade hence must be as concerned with the characteristics and qualifications of those recruited and retained in teaching over the past two decades as with the characteristics and qualifications of those presently being recruited. Those who are presently in classrooms will have a more dominant influence on the shape of the teaching corps than will new recruits. In 1979, for example, only half as many teachers were employed as in 1969 (125,000 contrasted to 253,000). Thus, a consideration of patterns of recruitment, selection

and retention in the period 1950-1970 is essential to anyone who wants to understand the shape of the present teaching corps as well as the probable shape of the teaching corps over the decade to come.

1950-1970

The growth in the absolute size of the teaching corps between 1950 and 1970 is in itself a dramatic development, but this development is even more dramatic when considered in light of changes in the level of educational attainment of the population. For example, in 1950, only 7.1% of the male population above the age of 25 had completed college as opposed to 5% of the female population. In 1959, this figure had increased to 10.1% for males and to 5.9% for females. Thus, between 1950 and 1959, there was a 42% increase in the number of adult males in the population with a college degree and an 18% increase for females. Between 1960 and 1970, there was a 39.6% increase in the percentage of males in the population with a college degree and an increase of 39% for females. However, between 1950 and 1970, the rate of growth in the size of the teaching corps was substantially higher than the rate of growth in the college educated population generally (48% from 1950-60, 52% from 1960-70). In addition, the period 1950-1970 was a time of substantial upgrading in the requirements one was expected to meet in order to be certified to teach. (See our earlier discussion of changes in degree requirements between 1950 and 1970). These changes, which made college degrees mandatory for teachers, increased the demand of the teaching occupation for the services of college educated personnel and, thus,

compounded the problem of providing an adequate supply of teachers. The demand for college graduates for teaching was enhanced even more by the fact that expansion required hiring a disproportionate number of inexperienced teachers. Since inexperienced teachers leave the occupation at a higher rate than experienced teachers (see, for example, Schlechty and Vance, 1981; Vance and Schlechty, 1982), this increased the need for more new teachers to replace new teachers who left early and in large numbers. Thus, three factors came together to put pressure on the teaching occupation to compete for the services of college graduates. First, there was the increase in the size of the teaching corps itself. Second, the change in standards precluded the occupation from dipping into the non-college educated population to meet this demand. Finally, the disproportinate number of beginning teachers in the population due to expansion and the tendency of these beginning teachers to leave education at a higher rate placed additional pressure to compete for college graduates.

The Special Case of the Secondary Schools

The postwar baby boom began to have an impact on the elementary schools in America during the early 1950's. The impact of this population explosion was not felt in the secondary schools until later in the decade and was most directly felt in the secondary schools during the decade of the 1960's.

Given the image the term "postwar baby boom" suggests, one might expect that the major expansion in the teaching population in the period 1950-1960 would have been in the elementary schools followed later by a similar expansion in the secondary schools. In absolute terms, this view is correct, since 55% of the increase in the size

of the teaching force between 1950 and 1960 occurred in elementary schools. Relatively speaking, however, the size of the elementary school faculties did not increase as much during 1950-1960 as did the secondary school faculties. For example, in 1960, elementary schools had approximately 41% more teachers than they did in 1950, whereas secondary schools had approximately 61% more teachers than they did in 1950. Between 1960 and 1970, elementary school faculties expanded by an additional 35%, whereas secondary school faculties increased by an additional 72%. Furthermore, between 1960 and 1970 growth in the size of the secondary school teaching corp accounted for 56% of the total expansion of the size of the teaching corps. The basic reason that secondary school staffs expanded at a proportionately higher rate during the 1950's than did elementary school faculties had to do with a dramatic decline in the high school drop-out rate between 1950 and 1960. In 1950, for example, approximately 56% of eighteen year olds had graduated from high school. By 1960, this number had increased to approximately 72%. After 1960, secondary school faculties were expanding even more rapidly due to the impact of the postwar baby boom on the secondary schools, which hit the secondary schools in the late fifties.

The consequence was that during the 1950's and 1960's, the youth of the teaching corps was more reflected in the secondary schools than in the elementary schools. For example, in 1966, the median experience of secondary school teachers was seven years in comparison to ten years experience for elementary teachers. Age distribution was not the only factor that was affected, for sex distribution was affected at both the elementary and secondary levels as well. For

example, in 1950, approximately 40% of the secondary teachers were male. By 1970, over 50% were male. In the elementary schools, the percentage of males had changed from slightly more than 7% in 1950 to more than 13% in 1960. Thus, the character of the secondary teaching corps was largely determined by an influx of young men who attended college as a result of the G.I. bill and who attended colleges that were willing to accept an expanding population.

The impact of these events on the present teaching corps can only be appreciated when one takes into account the fact that most of the graying of the teaching force that is now widely discussed is reflected in secondary schools and results from the aging of those once young men hired during the 1950's and 1960's. For example, in 1979, the median years of experience for secondary teachers was 11, as contrasted with 7 years in 1966. For elementary teachers, the median for 1966 and and 1979 was ten years. Furthermore, in 1979, men (representing 54% of the secondary teaching force) generally reflected more experience than women. The median years of experience in 1979 was 11 for males and 10 for women.

What these data indicate is that the so-called "graying" of the teaching force is not equally distributed. Indeed, discussions of the graying teaching force must systematically take into account the level taught (i.e., elementary or secondary) and the sex of the teachers. For example, given the fact that men constitute 54% of the secondary teaching force and given the fact that men are also older, the most stable population in schools is at the secondary level. Furthermore, given the fact that experienced male teachers are less likely to leave teaching than experienced female teachers,

the most stable population in secondary schools is male. Given these data, it seems reasonable to estimate that at least 30% of the secondary teaching force that will populate classrooms during the 1980's will be drawn from among male teachers recruited to teaching in the period 1960-1970. Another 10-15% of the teachers teaching in secondary schools in the 1980's is likely to be drawn from male teachers recruited between 1970 and 1975. If one takes into account that 15-20% of the present secondary teaching corps are females who were recruited in the period 1960-1970, it is clear that the quality and characteristics of older teachers and particularly older males will have a dominant impact upon the character of secondary school faculties. Furthermore, even the most conservative projections (see Projection of Educational Statistics 1988-89) indicate that the size of the secondary teaching corps will decline by almost 10% over the next decade, while elementary school faculties will expand. Thus, by the end of this decade, it is likely that the age differential between elementary and secondary school teachers will be greater than it is now. Possibly, secondary schools will have a higher proportion of males in them than is now the case, whereas the proportion of males in elementary schools may decline. One fact however, causes us to temper our suggestion regarding the increasing maleness of the secondary school faculty. Data now available (Schlechty and Vance, 1981; Vance and Schlechty, 1982) in two recent studies suggest that the holding power of teaching for males who are now beginning teaching relative to the holding power for females may be on the decline. If this should be the case, then it is likely that the composition of both the secondary and elementary teaching

corps will become more female in the next decade than is presently the case. However if our data and analysis are correct (see below) the quality and characteristics of the females recruited and retained in teaching over the next decade are likely to be substantially different from the quality and characteristics of the females recruited between 1950 and 1970. To understand what is meant by this statement, it is necessary to look more closely at patterns of recruitment and retention from 1950 to the present.

The Issue of Retention

Prior to 1970, there are little reliable data regarding the characteristics[3] of those who are retained in teaching. There are, however, at least three studies that provide some insight into this matter.

Pavalko (1970) surveyed a sample of 4,621 female Wisconsin high school seniors in 1957 and seven years later, in 1964. He was able to identify five overlapping career categories based on career plans (1957) and career outcomes (1964):

1. Those who planned to become teachers.
2. Those who planned to become teachers but did not.
3. Those who planned to become teachers and did.
4. Those who did not plan to become teachers but did so.
5. Those who became teachers regardless of their career plans.

Measured intelligence was based on the Henmon-Nelson test of Mental Ability (1942) and was taken by the sample in the junior year of high school. Pavalko divided measured intelligence into three categories - high (IQ above 116), medium (IQ 105-116) and low (IQ below 105) which yielded approximately equal numbers of females.

For recruitment into the occupation, he found that women ranked in the lower third were underrepresented (11%) while those in the highest third were overrepresented (56.8%). In addition, he found that those who did not plan to become teachers but did were disproportionately drawn from the higher ability level (58.5%). Having answered "Who is recruited into teaching?", Pavalko looked at retention in the teaching occupation by ability level. By 1964, the total cohort had lost 40% of its members. 72.9% of the lowest ability level remained, 56.7% of the middle ability level, and 59.3% of the highest ability level remained. Pavalko concluded: "Although teachers are recruited disproportinately from girls of higher measured intelligence, it is those of lower measured intelligence who continue working."

Henry Levin (1970), using data derived from the U.S. Office of Education's Survey of Equal Opportunity for the school year 1965-1966, attempted to answer the question "Is it more cost effective to hire teachers with higher verbal ability scores than teachers with more experience in attempting to raise the achievement scores of students?" Using the data from Eric Hanuchek's study of teacher characteristics and achievement scores for white students in 471 elementary schools and black students in 242 elementary schools in the metropolitan North, two traits were found to consistently relate to students' verbal scores: years of teacher experience and teachers' verbal score. Levin applied this data to a standard economic production function which maximizes achievement scores under budget constraints. He was able to compare the approximate costs of raising student test scores with two different strategies: recruiting and

retaining teachers with more experience and recruiting and retaining teachers with higher verbal scores. Of particular interest to this study was the necessity for him to demonstrate that, in fact, these were two different strategies for if teachers with higher verbal scores. Of particular interest to this study was the necessity for him to demonstrate that, in fact, these were two different strategies for if teachers with higher verbal ability were also those with greater experience, then these could not be considered true alternatives. This was not the case because the zero-order correlation between experience and verbal ability for the several thousand teachers was not significantly different from zero. In addition, he found a significant pattern among the newer teachers: the teachers with the highest verbal ability were the ones with no experience. Furthermore, "Many of the most highly endowed of these individuals leave the schools within three years so that the stock of teachers with three years or more experience shows significantly lower test scores than those with less than three years experience" (p. 33). His finding that the approximate cost to the schools of obtaining a teacher with verbal ability that would raise a Negro or white student verbal score was $26. The relative cost of the same increment for Negro student by teacher experience was five times as costly or $128. To make the same gain in verbal scores for white students through purchasing teacher experience was nearly ten times as expensive or $253. Levin concluded "the obvious policy implication is that school districts are obtaining too much experience as against verbal proficiency. Accordingly, the schools should try to increase

the recruitment and retention of verbally able teachers while paying somewhat less attention to experience" (p.31).

Sharp and Hirshfield (1975) examined data initially collected in 1967 by the American Council on Education on 185,848 first-time full-time freshmen in 252 institutions. Four years later, a follow-up study was conducted on a sub-sample of 34,346 cases. Of those, 19,350 yielded a projected population of 542,300. This study was based on this nationally representative sub-sample. Their study focused on two phases of career development: change in career plans during college and recruitment from college into the first teaching job.

In 1967 and 1971, respondents were asked to select their probable career. All designating elementary school teacher, secondary school teacher, school counselor, school principal or superintendent were viewed as selecting an education career. Consequently, four categorizations were derived:

NEVER EDUCATION CAREER: those who had not selected an education career at 1967 or 1971 (60% of 1971 graduates).

STABLES: those who had selected education both in 1967 and 1971 (20% of 1971 graduates).

RECRUITS: those selecting education careers in 1971 (11% of 1971 graduates).

DEFECTORS: those selecting education careers in 1967 only (8% of 1971 graduates).

Acknowledging that the key question occupying educational policy-makers is probably the effect of in-college career changes on the total pool of students selecting education as their first job, Sharp and Hirshfield found that defectors had the highest grade point

averages of B+ or better. Stable males were found to be lowest on both measures; stable females were lowest on the proportion of those with B+ or better; recruits were the lowest group on overall grade point average.

An academic index, which combined institutional selectivity and personal grade point average and originally developed by James A. Davis at the National Opinion Research Center, was applied to the categories. Stables were found to be the least likely to score high and the most likely to score low. Defectors scored higher than stables and female recruits. Male recruits had a higher proportion of high and low scorers than defectors.

By 1971, career choice changes had altered the overall ability-related factors associated with the teacher pool in the following ways: defectors' measure of college selectivity was higher than recruits as was their grade point average and, consequently, they were least likely to score low on the academic index. Choosing out of education during the college years was found to result in a loss of high achieving students who attended quality private institutions. The net effect of in-college career choice out of education is best summarized by Sharp and Hirshfield (1975):

> To the extent that such students (high achievers from highly selective institutions) were initially interested in education careers, they more than others defected from them during the college years as other opportunities opened to them. The data suggest that in the early 1970's, more than in the early 1960's, able male students from modest backgrounds raised their sights and gave up teaching for more prestigious or lucrative careers. They also show that women of high ability and in comfortable financial circumstances sought alternatives to teaching careers and selected career jobs which required advanced training, such as college teaching and the professions (p. 10).

Sharp and Hirshfield created two additional categories from the 1971 graduates: those who received a contract to teach in the fall of 1971 or who had already begun to teach were classed as hireds. Those who had applied for a teaching position but did not receive a contract were classed as non-hireds. Seventeen percent of those intending to teach did not apply. Out of those who applied, 25% were hired. Results showed that non-hireds had attended more selective institutions than hireds although the median selectivity for the entire graduating cohort was considerably higher than either the hireds or non-hireds. The greatest difference between hireds and non-hireds was grade point average and proportion of those with B+ or better average. Regardless of sex, race, religion, institutional selectivity, career goal in education or not and length of anticipated career, hireds had a higher mean grade point average and a greater proportion of B+ average or better than non-hireds. Sharp and Hirshfield also found that a greater proportion of hireds scored high on the academic index and a greater proportion of non-hireds scored low.

For males, the grade point average of hireds was slightly below all male graduates in the cohort. Women who were hired had slightly better grade point averages than all of the women graduates. For both men and women, those not hired had considerably lower grades than the total graduating cohort.

Up to this point, Sharp and Hirshfield dealt entirely with selection of educational careers and recruitment into teaching. Because their study did not follow the 1967 freshmen class beyond their first teaching job, they were unable to speak to the retention of teachers in the occupation. However, they did ask hired teachers "How

long a teaching career do you anticipate? - Less than two years - two to five years - more than five years but not the rest of my working life - most of my working life." While this item - length of expected teaching career of teachers who obtained early jobs - is by no means a substitute for direct measures of occupational retention, it does give us a glimpse of commitment to education as a career for between-group comparisons by measures related to academic ability - such as institutional selectivity and achievement measures.

They found that teachers with longer-term commitments came from schools of lower selectivity - and more modest personal circumstances. Longer-term teachers had higher mean grade point averages - however, the proportion of men and women with B+ or better grade point averages with the shortest commitment was nearly the same for those with life-time commitment - 25.8% and 26.3%, respectively. Women who intended to make education a life-time career had a higher mean grade point average (3.02) than men with the same level of commitment (2.88). In both cases, the grade point average of life-time commitment oriented teachers was greater than the grade point average of those committed to less than two years. This held up for white and black teachers.

When the academic index which adjusts grade point averages for institutional selectivity was applied to length of anticipated teaching career of hired teachers, the proportion of those highest on the academic index was greater for males committed to less than two years than for all other levels of commitment. For women, those highest on the academic index showed the same percentage for less than two years and for more than five years but not rest of working life. For males and females combined, those with the shortest commitment to teaching as a career had the highest proportion on the academic index. For

combined males and females who scored high on the academic index, the largest percentage occurred among those with less than two years anticipated service in teaching.

In assessing the policy implications of their study, Sharp and Hirshfield made the following comments:

> Coupled with the finding that the 1971 new teachers were also more likely to be offspring of parents with at least some college and in professional and managerial jobs, and less likely of those in blue-collar jobs, these data suggest that the sexual, social and ethnic gap between teachers and students is growing (p. 19)... Recruitment to teaching occurred among socially concerned students (judging from their attitudes and values measured in the questionnaire) from higher socio-economic backgrounds, but not higher academic achievement. Defection, on the other hand, seemed to occur mainly among those students from lower socio-economic backgrounds whose professional aspiration level had been raised in college, perhaps because the institutions they attended - more frequently private and/or of high quality - tended to encourage them in the substitution of other careers for teaching, or perhaps because they themselves (for example, black men, women of high achievement, with doctoral ambitions) perceived alternative career possibilities they had not initially recognized. Policy-makers who are primarily concerned with recruiting the 'best and the brightest' into school systems will view these findings with alarm; those who are primarily eager to recruit sympathetic and service-oriented teachers will be pleased (pp. 19-20).

Assuming that the teachers represented in these studies are typical of teachers recruited during the period 1950-1970 and assuming that the career patterns they project for themselves were in fact carried out, it seems likely that those teachers who were retained from the 1950-1970 cohort and are, therefore, presently teaching disproportionately represent the least academically able of those recruited. Furthermore, it also seems likely that those who were retained were drawn disproportionately from among those persons who attended the least selective teacher training institutions.

In addition to the evidence presented in the studies cited above, there are at least two additional reasons to believe that such conclusions are warranted. First, 1950-1970 was a period of great expansion in the size of universities and a time of considerable increase in the number of four year colleges and universities. Among those programs that were expansive were those programs aimed at the preparation of teachers. Futhermore, many of the new four year colleges that were formed in this period gave substantial emphasis to the development of teacher education programs. Indeed, it appears that the lower the standards of selectivity to college during this period, the more likely it was that the college would give most of its emphasis to teacher education. Thus, much of the expansion in the number of college graduates available to fill new teaching positions was accounted for by expansion in the productivity of the least selective segment of the higher education establishment.

Second, based on recent studies (Schlechty and Vance, 1981; Vance and Schlechty, 1982), where longitudinal data are available, the actual behavior of recent recruits is consistent with the projected patterns suggested by the Sharp and Hirshfield study. Since the 1970's (the time period in which the data for these studies were collected) was a time of uncertain economic conditions, one would expect that if patterns of retention of the 1970's differed from those of the 1950's and 1960's, those differences would be reflected primarily in an <u>enhanced</u> capacity of schools to retain the services of the more able and the students from the more selective colleges. Thus, if retention patterns were different in the 1950's and the 1960's from today, one would expect that even more of the able teachers left teaching in the 1950's and 1960's than is the case today.

Recruitment - Selection - Retention: the Decade of the 1970's

W. Timothy Weaver (1979), writing from a demographic perspective on the effects of a decline in undergraduate enrollments, asked how this social force might affect the selection process which attempts to place talented members of each new age cohort eventually in roles of classroom teaching, administration and educational research. Weaver presents data on such accepted measures of academic ability as the Scholastic Aptitute Test (SAT), the American College Testing Program (ACT), Grade point averages (GPA), and SAT scores of graduating college seniors, class of 1976 from the National Longitudinal Study (NLS) - as well as NLS' own vocabulary, reading and math tests. In addition, Graduate Record Examination (GRE) and National Teacher Examination (NTE) score data are presented to show the effect on the quality of teachers by three conditions: (1) a decline in the job market in teaching; (2) a shift in student preferences away from the field of education and (3) a sharp decline in test scores of college bound students and enrolled freshmen who intend to study in education and a pass-through of the score decline to graduating seniors and to those who find teaching positions.

Defending his use of test scores to distinguish the academically talented, Weaver states:

> If it is a reasonable expectation that new teachers ought to be able to read and write sentences, recognize common words, add, subtract, and multiply numbers with at least average proficiency, then the discovery that such skills are not average and have diminished would be cause for alarm. The education profession must be able to make the claim that its members are competent in the basics they are teaching because it is a reasonable presumption that such competencies are necessary for effective teaching. That it is also empirically the case is immaterial. (Here Weaver cites James S. Colemen, et al. Equal Opportunity study of 1966 which initially established positive, significant correlations between teachers' verbal ability

> and measures of verbal achievement of students in elementary and high school). It is simply a reasonable requirement that those who attempt to develop literacy in the young be themselves literate (p. 30).

Defending the reasonableness of literacy as an occupational requirement, Weaver argues:

> To the extent the profession cannot claim to foster the development of such skills, it will suffer further loss of its fundamental claim to authority. It would be reasonable to contest the legitimacy of the education profession to claim any exclusive perogative in the conduct of schooling, the compelling of communities to set aside property rights through school taxes, or the enforcement of compulsory attendance (p. 46).

Weaver presents data that raise crucial questions about the ability of the education profession to recruit and select students of high academic quality. Comparing 1976 college-bound high school seniors who intended to major in education with all college-bound seniors, he found the prospective education majors to be 34 points below the mean on verbal scores and 43 points below the mean on math scores. Using longitudinal ACT test data, Weaver found statistically significant declines in English and especially in math test scores since 1970 for high school seniors intending to major in education when compared to all college-bound high school seniors. He examined the ranking of intended majors by academic ability and found education ranked lower than business administration, biological sciences, engineering, health and medical fields, physical sciences and social sciences.

Enrolled college freshmen, 1975-1976, indicating an education major, were ranked seventeenth on math scores and fourteenth on English scores out of nineteen possible fields of study in the ACT data. In addition, these scores have declined significantly when compared with the 1970-1971 group.

College seniors who majored in education, according to NLS data reported by Weaver, ranked fourteenth out of sixteen fields on SAT verbal scores. Only seniors studying in office-clerical and vocational-technical fields scored lower on SAT verbal. For the SAT math scores, graduating education majors ranked fifteenth out of sixteen fields, with their scores being 52 points below the mean of all graduating seniors. The grade point average of education majors was 2.72 compared with 2.97 for all graduating seniors and was ranked twelfth out of the sixteen majors. Examining the scores made on the NLS tests for vocabulary, reading and math, Weaver found senior education majors below the overall population mean. The only group of majors who seniors majoring in education ranked above on all three tests were clerical-office majors.

Graduate Record Examination (GRE) scores for education majors have shown statistically significant declines since 1970. Compared with other professional fields in 1975-1976, these scores were reported by Weaver as being substantially lower than those of other majors. The GRE scores of education majors have also declined at a faster rate since 1970 than the total population taking the GRE.

Examining the National Teacher Examination (NTE) scores for education majors, Weaver found a net score decline of 20 points during the five-year period from 1969-70 to 1974-75, a decline reported as significant well beyond chance. Weaver then examined the next step in the process of selection into the teaching occupation - applying for and finding a teaching position. He found among the NLS data that those who had majored in education and did not find teaching jobs - for whatever reason - had higher test scores than those who were teaching except in math (55.90 vs. 55.80). Although the difference in test scores

between the two groups is small and, according to Weaver, only approaches statistical significance on the SAT - V and SAT - M scores, he concludes that the importance of these score comparisons is "... that the process of teacher selection and placement does not result in more academically competent teachers being selected" (p. 46). Consistent with the findings of Sharp and Hirshfield (1975), Weaver found slightly higher grade point averages among teacher candidates who were hired (2.86) than those not hired (2.79) which led him to suggest that employers perhaps use grades in determining which teachers to hire.

Citing a National Public Radio show in December, 1977, that suggested an influx of minority students had negatively affected the test scores of students majoring in the professions, Weaver analyzed the NLS data and concluded:

> There is not a larger proportion of nonwhite students in education than in other career fields (all career fields having a smaller proportion of minorities than do arts and sciences), and the presence of minorities among graduating seniors has virtually no effect on test scores.... The effect of nonwhite test scores on population means among seniors in the various fields of study for both verbal and math SAT scores is minimal, and explains little of the declining qualities observed among the professions in general (p. 31).

Having defended against one alternative explanation for the decline in measured academic ability, Weaver offers a general proposition that he says governs the allocation of talent to different fields of study: "As market demand for new graduates in any given field declines, not only will the quantity of potential students decline but also the quality of the applicant pool prepared to enter that field of study" (p. 32).

Subsequent to Weaver's study, the two studies conducted by the present authors were completed. Both of these studies had the

advantage of being longitudinal in nature. The first of the studies permitted us to follow the career patterns of all new teachers employed in North Carolina from 1973 through 1980. The second, based upon a continuation of the same NLS data set used by Weaver, permitted us to study the actual and projected career patterns of those persons from the 1972 high school graduating class who actually graduated from college by 1979 and who took teaching positions during that period.

At a descriptive level, the conclusions that we have arrived at regarding the nature of recruits to teaching in the present decade are consistent with Weaver's findings. For example, in our study of North Carolina teachers, we found a consistent decline in the measured academic ability of teachers entering teaching in North Carolina during the period 1973-1980. In our second study, we examined an extended version of the data set used by Weaver (the NLS data). We found no reason to dispute Weaver's conclusions that the overall quality of those recruited to teaching in the 1970's (as measured by tests of academic ability) is probably lower than it was in the 1960's through this conclusion is based more on Weaver's analysis than our own. The nature of our analysis, however, has permitted us to extend Weaver's argument and has caused us to seriously challenge one of his basic conclusions. Specifically, Weaver suggests that the decline in the academic quality of the entering teacher corps is attributable to two conditions: one, the tendency of the more able to opt out of education and two, the fact that teacher training institutions respond by opening admissions to increasingly inferior students. We have no quarrel with the first of these two conclusions,

the data from our studies are consistent with it. However, we do question whether people are now being admitted to education who would have been denied admission in the 1950's and 1960's. Our conclusion is that the decline in the overall quality of the teaching corps is more the result of a shrinkage in the size of the population electing to enter teacher education and a tendency for those who are the most academically able to opt out of teacher education for other fields. For example, in the North Carolina study based on NTE Common scores (Schlechty and Vance, 1981) 1,294 white females in 1973 scored below 610 (the 1973 median) and 1,301 scored above 610. Fourteen scored exactly 610. By contrast, 1,235 white females in 1980 scored below 610 and only 817 scored above 610. Ten scored exactly 610. Thus, while there was an overall decline from 1973 to 1980 in the number of white females employed, most of this decline occurred among high-scoring females, i.e., those who scored above 610. Indeed, in 1980, the state of North Carolina employed only 59 fewer low-scoring white females than was the case in 1973. This represents a reduction of 4.6% in the number of low-scoring white females employed in 1980, compared with 1973. By contrast, the state of North Carolina employed 484 fewer white females who scored above 610 in 1980 than was the case in 1973. This represents a 37% decline in the number of high-scoring white females employed in 1980, compared with 1973.

The North Carolina case is not peculiar. In a study based on a national sample (Vance and Schlechty, 1982), it was found that males were over represented in those who scored in the top 20% on the SAT among those who entered teaching. Overall, 26.78% of those who

entered teaching were male. However, males represented 33.33% of those who scored in the top 20% on the SAT verbal and who entered teaching. Since it is historically the case that females rather than males were over represented in the high ability groups entering teaching, these data support the assertion that nowadays high ability females are disproportionately opting out of education. There is, in addition, some reason to believe that the same pattern may be developing among blacks. For example, among black college graduates who scored in the bottom 20% in verbal ability on the SAT, 27% entered teaching. In contrast, only 13% of the black college graduates in the remaining 80% entered teaching. If it is true, and we believe it is, that prior to the mid 1960's, education received a disproportionate number of the more academically able blacks, this is certainly no longer the case.[4]

Data regarding patterns of retention provide additional support for the assertion that teaching is increasingly unable to attract and retain able females. In the past, the evidence indicates that the long run holding power of teaching for males was somewhat greater than for females (e.g., Charters, 1963). The two studies cited above (Schlechty and Vance, 1981; Vance & Schlechty, 1982) indicate that there is very little difference in the drop-out rate of males and females. In addition these data support the conclusion that the reason for this change is the decreasing ability of education to command the loyalty of high ability females after they have been recruited to the occupation. For example, in the North Carolina study, 59.6% of the females who entered teaching in 1974 continued to teach in 1980 as compared with 58.9% of the males. Only 37.3% of the females who were

in the top 10% of that group remained in teaching as opposed to 39.75% of the males. 46.07% of the females who were in the second 10% remained in teaching as opposed to 49.3% of the males. However, if one examines the lowest two ranks (the bottom 20%), one finds a different pattern. For example, 64.2% of the males in rank nine were teaching in the fall of 1980, as compared with 57.8% of the females and of those in rank ten, 74.8% of the males were teaching as compared with 62.5% of the females. The important point is that there is very little difference in the ability of education to command the loyalty of high ability males and high ability females. Neither group finds teaching particularly attractive. Thus, a decrease in the proportion of high ability people who are female would lead to a decrease in the overall turnover rate for females.

It is not, however, totally clear that education today is any better able to retain the services of new and inexperienced teachers than it was in the past. The National Center for Educational Statistics does report that prior to the recent decade, approximately 8% of the total teaching force turned over (Projection of Educational Statistics to 1988-89). Presently, they estimate a 6% turnover rate. On the surface, this would seem to suggest that teachers generally are leaving education at a slower rate than was the case in the past. However, during the 1960's and presently, teachers with less than seven years experience leave, or left, education at a faster rate than teachers with more than seven years experience. Based upon our own studies (Schlechty and Vance, 1981; Vance and Schlechty, 1982), it seems reasonable to estimate that from 40-50% of those employed as first-year teachers this year will not be teaching seven

years from now. Furthermore, two thirds to three fourths of those who leave will do so in the first four years of teaching. Our best estimate is that first-year teachers leave teaching at an annual rate of 15% and the rate for second-year teachers is approximately the same. Third-year teachers leave at a rate of approximately 10% and it is not until the fifth or sixth year that the annual rate reaches a level that will support the assumption made by NCES. Furthermore, there is a major difference in the retention rate of those who are highest in ability and those who are lowest in ability. For example, of those who are in the upper 20% of measured academic ability, only 26% intend to teach at age 30 (based on NLS data) as contrasted with approximately 60% of those with the lowest academic ability. Thus, whatever decline there is in the turnover rate is likely to be attributable to the fact that teaching now attracts fewer of those persons who are likely to leave; that is, there is an overall decline in the absolute number of new teachers employed and among those who are employed, proportionately fewer are drawn from the high ability groups.

A General View

Many critics of public education are well aware of the general dimensions of the problems described in this paper. Unfortunately, few seem to understand that solutions to the problem of recruiting and selecting high quality teachers are not likely to be found if one concentrates attention on institutions of higher education or on upgrading certification requirements. In fact, given the truncated view that presently dominates legislative thinking and the consequent

tendency to assume that by culling out the bottom, it is possible to assure the presence of the top, there is a strong possibility that policy thrusts in the next decade will create a major teacher shortage and yet never address the real problems.

For example, based on our analysis of NLS data, if policies were put in place that deny admission to teaching to those college graduates who scored below the lower fifth of all college graduates on measures of academic ability the following seems likely to be the result:

(1) Approximately 35% of those who major in education would be denied entry to teacher education programs. This would have virtually no impact on schools and departments of education that are located in major research and development centers, but would have devastating effects on weak private schools and many weaker state institutions. Some will applaud this result, but one cannot overlook the political significance of such a move.

(2) If those persons who actually took teaching jobs and who scored in the lowest 20% on the SAT or other measures of academic ability were excluded from taking positions, it is conservatively estimated that the supply of teachers would be decreased by 30%. If it were required that one score above the median on tests like the SAT or the NTE in order to teach, this requirement would exclude between 70% and 75% of all teachers.

(3) Since it is the case that those who score lowest and who enter teaching are the most likely to stay in the teaching occupation, it seems reasonable to speculate that if those

who scored in the lowest 20% on measures of academic ability were precluded from entering teacher education and thus from taking teaching positions, one would decrease the number of teachers likely to stay in teaching beyond age 30 by 40% to 50%. Thus, by precluding the bottom 20% of all college graduates from entering teaching, one would reduce the supply of career teachers by approximately one half.

(4) It also appears that reducing the access low scorers have to the teaching occupation would have a different impact on blacks, than on whites. Overall, approximately 9.5% of the population attracted to education is black. This represents approximately 20% of black college graduates. However, education attracts nearly 35% of the black college graduates who score in the lowest 20% on the SAT. In fact, 75% of all blacks who enter education are drawn from among those blacks who score in the lowest 20% (Vance and Schlechty, 1982).

(5) With regard to males, teaching recruits approximately 10.5% of all male college graduates. However, 30.1 percent of all males recruited to teaching are drawn from the lowest 20% as compared to 23.5 percent of the females. Furthermore, 39.1 percent of the males who intend to continue teaching are drawn from the bottom group, as opposed to 25.3% of the females. Thus, if the lowest 20% were excluded, males would be disproportionately excluded).

Given the conditions outlined above and the arguments presented earlier, it seems to us to be irresponsible to write off as irrelevant the fact that education is having difficulty attracting and retaining

the services of academically able college students. The inability of education to attract and retain the services of those who are among the more academically able has, in the past, had deleterious effects on the prestige of teachers and these effects are likely to be more pronounced in the future. In addition, unless a means can be found to attract more academically able persons to teaching, there is a strong possibility that more and more high prestige research and development institutions will remove themselves from the teacher education enterprise since these institutions will find it increasingly difficult to attract students to their programs who meet the general standards required of all their students. Thus, teacher education will continue to suffer status loss within the higher education establishment and will be relegated to those institutions of higher education that are lowest in the academic pecking order.

If the analysis presented here is correct, students from the upper half of college graduates are fleeing from education in increasingly large numbers. If those who advocate minimum competence tests have their way, those from the lower fifth will be excluded as well. The result may be that teaching will become the exclusive domain of academically inferior white females.

The key questions that remains are "Why are things as they are?" and "What might be done to remediate this condition?" The remainder of this paper is an attempt to suggest some answers to these questions.

Retention of The Academically Able: The Central Issue

To understand the difficulties schools now have in recruiting

and selecting academically able persons to teach, one must understand that schools are presently not organized to retain the services of these people once they are recruited and selected. Until schools become attractive places for the academically able to pursue careers, it is basically meaningless to discuss issues of selection and retention. Indeed, to concern oneself with recruiting and selecting high ability persons for schools without first making schools attractive to these persons is likely to be dysfunctional and disruptive.

Indeed, it is probable that the reason past efforts to improve the academic quality of the teaching corps have failed is because these efforts have concentrated primarily on recruiting more able people to teacher education and on changing the quality of teacher education programs themselves rather than attending to the structuring of schools in ways that would be attractive to these increasingly able candidates. In spite of what the critics say, schools and departments of education now produce many more academically able teachers than schools employ, and those academically able teachers who are employed tend to leave the occupation early. The ability to recruit academically able teachers and/or to select teachers from among the academically able depends in large measure on the ability of schools to provide environments and career opportunities that are attractive to the academically able in the first place.

Retention and the Conditions of the Workplace

Those who have given serious attention to the organizational nature of schools and to the structure of the teaching occupation

have identified numerous factors about teaching that would be discouraging to career-oriented men and women whose academic qualifications and personal aspirations make them candidates for careers in fields outside education. We do not intend to list all of these conditions here. Rather, we recommend that the interested reader consult this literature (e.g., Dreeben, 1970; Gracey, 1972; Lortie, 1975; Schlechty, 1976; Vance, 1981) for themselves. What we do propose to do is to suggest three obvious features of schools that are likely to be discouraging to the academically proficient and to suggest some possible ways of altering these conditions. These features are:

(1) The tendency for the reward system in teaching to be front-loaded and the lack of a clear career ladder and career staging.

(2) The tendency of schools to mitigate against shared decision-making and problem centered analytical discussions among adults.

(3) The tendency for the informal culture of schools which reflects an ethos of nurturance and growth to be dominated by a management structure that is punishment centered and bureaucratic. This condition results in the production of frustration and dissatisfaction, especially to the more thoughtful and sensitive members of the school community.

The Teaching Career

It is obvious to all who have thought about the matter that, in the main, the teaching occupation is not organized to promote careerism among teachers. Salary schedules are truncated and there is little opportunity for advancement within the ranks of teaching

since the teaching role is largely undifferentiated. Unlike business organizations where low level managers can aspire to positions in middle level or top management and unlike medicine where one can anticipate quantum leaps in income, the longer one teaches the less rewarding teaching is, at least in relative terms. (We recognize that there are many intrinsic rewards in teaching, but other occupations have intrinsic rewards as well).

The problem is that when teachers gain sufficient experience to be at the top of the salary schedule, ten to fifteen years, they are likely to be relatively young, around thirty-five. Indeed, teachers who hit the top of the salary schedule are only slightly older than physicians who have completed their residency. Thus, at approximately the same point that established professionals and business executives are in a position to launch their careers (at least in terms of salary possibilities) the career of the teacher is blocked.

Salary is not the only issue. Most of the psychic rewards that come to one as a teacher are as accessible to the relatively inexperienced teacher as to the experienced one. Other than a modicum of ancillary rewards that come to teachers by virtue of experience (e.g., having one's own room or own desk drawer), there are few rewards available to the experienced teacher that are not available to the inexperienced. Neither are experienced teachers likely to be afforded meaningful increments in responsibility though they may be relieved of more onerous responsibilities (e.g., patroling restrooms, monitoring study halls and so on). The matter of fact is that the reward structure associated with the teaching career

is truncated, it is impoverished and the impoverishment goes well beyond the impoverishment suggested by money. It is true that teachers can improve their economic lot somewhat by pursuing graduate degrees. However, there is no evidence that persons pursuing graduate degrees are any more proficient at their tasks than those who do not do so. Thus, schools use what little differential rewards there are available to reward people for doing college work rather than school work. Furthermore, there is little evidence that having successfully completed a master's degree provides one with any more honor or responsibility in the school than those who have not pursued such degrees.

It is the case that the pursuit of advanced graduate study is tied to certification patterns that lead to possible job changes in the school. Fortunately or unfortunately, such job changes usually mean that one moves further and further from matters of routine instruction and cause one to be identified as a member of an occupation other than teaching. Few teachers see administrators as members of the teaching occupation. In our view, the conditions described above are dysfunctional if the intent is to make schools a place attractive to career-oriented teachers and if the intent is to focus the attention of all employees on the business of providing high quality instruction to all children. There are no easy solutions to such problems, but the following seem to us to be some possible alternatives:

(1) Teachers, administrators and those who prepare teachers should conceptualize the school as a workplace. This does not

mean that schools are factories. There are many workplaces that are not factories (e.g., hospitals, research institutions and farms are workplaces).

(2) It should be assumed that the primary workers in the schools are students. The fact that work language is used to describe schools (e.g., home work, seat work and busy work) suggests that the workplace analogy is not incongruent with folk wisdom about schools.

(3) By conceptualizing schools as workplaces and students as the primary workers, the role of ordinary classroom teacher becomes the role of a first-line supervisor as opposed to a low level employee. Such a conceptualization seems quite consistent with the emerging view that teachers should be viewed as managers.

(4) Responsibility for the professional training of teachers should be divorced from institutions of higher education and teacher education should once again be placed where it in fact occurs: in the public schools. However, unlike the days of the normal school when the supply of college graduates was probably insufficient to the demand for them, the supply of college graduates is now relatively abundant and will become more so. For example, in 1950, if teachers had been selected from among only college graduates, the talent pool that would have been available represented less than 10% of the adult population. By 1990, the number of college graduates will be approximately 25% of the adult population. Thus, teacher

education institutions embedded in public schools could establish, as a preselection criteria, the possession of a college degree and have available to it (proportinately) 2½ times as many potential candidates as would have been the case in 1950.

There are some additional advantages to this proposal. First, the potential talent pool available for recruitment would not be limited to persons whose personal circumstances, values, or academic qualifications required them to attend less academically demanding institutions of higher education. Neither would it require that public schools recruit from a talent pool in high prestige institutions that selected themselves on the basis of personal willingness to sacrifice status and esteem on the college campus.

Second, the economic savings of such a policy would be substantial, and these savings might well be diverted to supporting teacher education programs in public schools. For example, there has seldom been a time, even when there was a teacher shortage, when more than 50% of those who majored in education took teaching jobs. It is reasonable to estimate that no more than one out of ten of those who major in education actually teach for more than twenty years. If one assumes a career teacher is a person who teaches more than twenty years, the expense of producing a career teacher is at least ten times as great as conventional FTE formulas might suggest.

Third, and perhaps most significant, the proposal made here has the advantages of expanding the potential talent pool available

to schools beyond that which is provided by weaker institutions of higher education and low status departments within the university structure.

(5) Those who are employed to teach should be identified in two broad categories: career teachers and non-career teachers. For those who aspire to the career teaching role, the successful performance of the duties of the non-career teacher might be a necessary prerequisite for achieving that status. For those who, by personal choice or by reason of organizational judgments do not achieve a status of career teacher, the occupational structure would remain relatively similar to that which obtains at present.

For those who do obtain the status of career teacher, however, new instructional roles might be created. For example, career teachers might be assigned responsibility for teaching students and teaching prospective teachers as well. They might be assigned evaluative authority for both programs and personnel or they might be assigned to manage and conduct problem-oriented, instruction-related research and development on the school site. However, the focus of the roles career teachers occupy would be on maintaining and improving the quality of instruction in the classroom and the quality of instruction of other teachers and of new recruits. The point is that by assigning responsibility for the education of teachers to schools and making roles associated with the education of teachers and research and development a part of the career structure of teaching, one enriches the career possibilities for all teachers. Simultaneously, such an arrangement has the prospect of brining teacher education

and research and development on teaching more directly into contact with the workplace.

Some may argue that our recommendation smacks of a return to the Normal Schools and takes away from teacher training the prestige that comes from being attached to institutions of higher education. It is possible that this criticism is valid though we think it is not and are more certain that it need not be. First, few Normal Schools gave emphasis to research and development activity. The arrangement we are suggesting would do so. Second, for reasons suggested earlier, the present relationship of teacher education to institutions of higher education does at least as much to stigmatize teaching as academically inferior as it does to enhance the status of the teaching occupation. We are not suggesting that teacher education be totally divorced from institutions of higher education. What we are suggesting is that the relationship between teacher education and institutions of higher education be altered in fundamental ways. First, we are suggesting that institutions of higher education be the sole source of nominees for admission to school-based teacher education programs (e.g., the baccalaureate degree would be a prerequisite to admission). Second, we suggest that schools of education, especially schools of education in major research and development institutions focus their attention on producing serious students of teaching and instructional processes. Some of these students might eventually be employed by school systems much like medical schools now employ graduates of chemistry departments, engineering, computer science and so on.

Put directly, we see the university campus as an excellent place, indeed the preferred place, to learn how to study education.

University campuses are well-equipped to provide prospective teachers with instruction in theories from the social and behavioral sciences that they might need to perform their work. Similarly, they are well-equipped to provide instruction in research methodology, statistics and evaluation. However, the actual conduct of instructionally-oriented research would be much enhanced if it could be carried out in school systems that gave status to those who conducted research and made it possible for new employees to aspire to research roles without leaving the school setting. Such a school culture would also provide a vital source of stimulation and excitement for the academically able teacher.

A Collegial Environment

Almost all the research on effective schools indicates that those schools in which teachers engage in a great deal of job-related discussion and share in decisions regarding instructional programs are more effective than those schools in which decisions are made by rule-bound bureaucratic procedures. Unfortunately, research also indicates that such schools are relatively scarce and that the emergence of such schools is dependent more on historical accidents and the personalities of principals than it is on conscious policy. Movements like the Teacher Center movement gained much of their impetus from the obvious need of teachers to discuss the conditions of their work. The often noted lack of a

shared language to describe work problems (e.g., Dreeben, 1970; Lortie, 1975), the tendency of schools to eschew long-term planning for short-term crisis management and what Silberman (1970) calls the mindlessness of schools is at least in part attributable to the fact that teachers have little time to think alone and even less time to think together.

Many administrators and teachers will acknowledge that shared decision-making and long-term planning would be desirable, but given the resources available, the time simply is not present for such luxuries. However, in over two decades of conducting research in schools and observing in schools, the senior author has frequently been struck by the fact that it was typically easier to get access to teachers and administrators in schools that engaged in shared planning and shared decision-making than it was in schools where such activity is discouraged. Indeed, the more centralized decision-making is and the fewer planning meetings teachers attended, the busier teachers seemed and the less time they had to talk to researchers or to other teachers. Of course, this observation was and is a casual one, and it would not be reported here except for one fact. In a recently published book by Ouchi (1981) entitled Theory Z, the author reports a similar observation regarding behavior of managers and employees in business environments. Thus, it may be that our observation is more than a casual one, for it may be that what is perceived as a waste of time in the short run saves time in the long run.

In sum, we are suggesting that concerning oneself with the personal attributes and characteristics of those who teach may

divert attention from the fact that the way schools are typically managed and organized may create a condition in which schools cannot attract the best who are available. In addition, given the present organization of schools, it may be difficult to get the best out of those who are attracted. It is time to face the fact that one of the greatest crises in American education is in the way schools are managed. It is also time to accept the fact that the quality of teaching personnel is unlikely to be substantially improved until the quality of managers is improved. Personnel management is the primary task of most school administrators, yet it is a subject about which few are well informed. Indeed, those who are officially charged with responsibility for "personnel" in schools are generally isolated from the instructional enterprise altogether. This leads us to recommend that if we are to improve the ability of schools to recruit and retain the services of the most able and if we are to create organizations that get extraordinary performances out of ordinary people which schools must do if democracy and excellence are to compatible, it is essential that public school administrators be made aware of the best thinking regarding the management of personnel. It is also essential that school administrators be recruited and selected from among those who have the most demonstrated competence in personnel management. Bureaucrats, purchasing agents, and schedulers are needed in schools just as they are in factories, but persons who are more concerned with numbers, schedules, rules, and procedures than they are with people and their management should not be charged with the responsibility of maintaining the moral life of an organization that is designed for

the purpose of enhancing human values.

Culture and Structure

If one looks at schools seriously, especially elementary schools, two demographic features stand out. First, there is the bifurcation according to age. The bulk of the population of schools are relatively unsocialized children, but schools are dominated and run by adults[6]. Second, the bulk of the teachers are women, but those who run schools are predominantly men. Without getting into the issue of sexism which this latter observation might suggest and at the risk of being considered sexist ourselves (i.e., engaging in stereotyping of the female role), we would suggest that the informal culture in schools and the values embedded in that culture are much more akin to the values Americans typically attribute to women than to men. For example, ideas of nurturance, growth, warmth and concern dominate the language of elementary school teachers. It is, perhaps, more than coincidental that the Teacher Center movement which is aimed at the nurturance of teachers is predominantly female (at least, in its local versions) and predominantly elementary school oriented. It is also, perhaps, more than coincidental that secondary schools, where men predominate, also reflect less concern with nurturance and growth and more concern with evaluation and standards than is the case in elementary schools. (Unfortunately, or some would say fortunately, one of the effects of the accountability movement, at least in some states, seems to be to cause elementary teachers to behave more like secondary teachers or at least to feel guilty if they do not).

The preceding discussion is not to suggest that male teachers are not concerned with nurturance and growth, for many are. Similarly, we are not suggesting that female teachers are not concerned with standards and evaluations, for they are. Neither do we suggest that nurturance and growth are incompatible with standards and evaluation, for such is not the case. What is the case, however, is that the informal culture of schools, at least many schools, is dominated by an ethos of nurturance and growth, what Pascale and Athos (1981) refer to as the soft S's - staff, skills, style, superordinate goals. However, those who are officially in charge of managing schools are more concerned with the hard S's - strategy, structure, systems. To paraphrase, when a school administrator wants to make a change, the odds are he or she will reorganize structure, introduce a new strategic direction or introduce a new control mechanism. When a teacher wants to make a change, he or she is much more likely to be concerned with personal style, with the effect on relationships in classes and among faculties and with the development of those personal and behavioral skills that are required to make the change effective.

It was not our assignment to discuss the implications of Theory Z and Japanese styles of management for schools, and we will not do so. However, after considerable experience in studying schools and after substantial time given over to studying patterns of teacher recruitment, selection and retention and after becoming as informed as possible about this new management fad called "Theory Z," we are convinced that Japanese management styles may have much to offer American schools. Indeed, Japanese management

styles may have more to offer American schools than they do American industry, for the conditions of American schools are already in many ways similar to Japanese industry. For example, with minor exceptions, anyone who gets a teaching position can reasonably anticipate a lifetime career in teaching if they want it. Similarly, at the classroom level, at least, high value is place on nurturance and growth. The staff development enterprise in schools is dominated by persons who come at education problems from a human relations perspective and by persons who are more prone to emphasize the soft S's than the hard ones. Indeed, it has been our observation that, in the main, staff development in schools is dominated by females (See Schlechty et al., 1982). However, those who run staff development seldom run schools. One typically gets to be a principal by being an assistant principal, not by being a curriculum supervisor or curriculum coordinator. Nurturance roles in schools, especially nurturance roles related to adults, are by and large dead-end positions for those who seek line authority in schools. Line authority is given to those who emphasize strategy, structure, and systems.

What is being suggested is that the informal culture of schools is, in an embryonic form, a culture that is consistent with the assumptions of Theory Z. However, it is a culture which must constantly battle for survival in a system dominated by persons whose experiences suggest that their masculinity and success as an executive depend on their being hard-nosed, hard-headed and concerned with the short-term bottom line. There is little in the culture or environment to encourage school administrators to be concerned with long-term goals, investments in personnel and investments

in thoughtful planning. There is, in fact, much to discourage such behavior. Perhaps, it is time for progressive school administrators to take advantage of the present fascination with Japanese management styles in order to develop and apply management skills that would be appropriate to the Z culture that seems embroynic in many schools. Indeed, we would hypothesize that in those schools where building administrators operate more in what is coming to be called the Japanese style, one would find more effective schools; for as things now stand, those people being recruited to teaching are ordinary folks. The genius of Japanese management seems to be getting ordinary people to do extraordinary things.

History's Heavy Hand

To suggest that the present situation in education is not different from the situation that obtained twenty or thirty years ago is to deny the reality of change. For example, in 1950 the suggestion that college educated teachers were drawn from the least academically able of all college graduates still placed teachers in a relatively unique group since fewer than 10% of all adults above the age of 25 possessed college degrees in 1950. By 1990 one out of four Americans above the age of 25 will have a college degree.

It seems logical to expect that college educated parents will be more concerned about the quality of teachers than non-college educated parents and will be more vocal about these concerns. Given the standards these persons are likely to apply, evidence that teachers are drawn from the least academically able cannot help

but have an increasingly negative effect on the respect teachers will be afforded by the most influential members of the community. Similarly, the argument that teachers were no more academically able than the average high school graduate was much less devastating in 1930 when only 25% of the population held a high school diploma than will be the case in 1990 when better than 75% of the adult population will have a high school diploma.

It is important to understand, furthermore, that many of the problems we have identified in this paper have their origin in solutions to problems that confronted previous generations of educators. For example, the tendency to separate administrators from teachers and to view teachers as workers and administrators as managers was encouraged by the perception that many of those the schools were compelled to hire were underqualified and unqualified. Given this perception, the solution was to attempt to staff the principal's office and the superintendent's office with "a few good men" to manage the activities of well meaning though technically and intellectually less than adequate women. The Hoosier Schoolmaster was a man afterall. Our Miss Dove was concerned with children. Our Miss Dove went to Normal School. The Hoosier Schoolmaster managed Normal Schools and had a "real" degree.

The drive toward professionalism in education seemed to many to require that the baccalaureate degree be a prerequisite to entry into teaching. However, during the period when the requirement of the baccalaureate degree became widespread (1940-1960), there were

many other occupations developing that were competing for college graduates as well. Furthermore, the population explosion that hit the schools between 1950 and 1970 forced schools to compete for more college graduates (about 20% of each year's supply) than any other sector of the economy. Given the scarcity of resources to attract these persons, the tendency was to encourage an inordinate expansion of the teacher education establishment in institutions of higher education and to encourage schools to be more attentive to making the teaching career attractive to beginning rather than to career teachers. The upshot was that institutions developed that were largely dependent on providing degree opportunities to persons who were willing to trade their college degree for a teaching position. Thus many colleges and university departments became dependent on the creation of programs of study that could offer degrees to persons of limited academic proficiency.

It is also important to understand that on the campuses of major universities there was never a strong commitment to the notion that teacher education was an important undertaking or a distinctive field of study. Indeed, even those departments and schools of education that are viewed by educators as high prestige departments were looked on with suspicion by influential members of the liberal arts establishments on these campuses. (See, for example, Conant, 1963).

Unfortunately, the low status of teacher education has caused (and causes) a great deal of posturing, pretensiousness and downright charlatanism on the part of many professors in schools and

colleges of education on high prestige campuses. Though Koerner's (1963) descriptions of the quality of research on teaching in schools of education may be overdrawn, any one familiar with educational research must admit that many of these inquiries often reflect less than brilliance. Furthermore, the generally low regard with which teacher education is held on high prestige college campuses did (and does) little to encourage the brightest graduate students to pursue studies in education just as it did (and does) little to encourage academically able undergraduates to pursue teaching.

During the 1950's and 1960's, however, a number of events occurred that encourage major institutions of higher education to passively assert to the expansion of teacher education programs even if they did not enthusiastically endorse such developments. First, the general expansiveness of institutions of higher education, including the expansiveness of budgets, made the emergence of teacher education on university campuses relatively non threatening to established departments. Everyone seemed to have more students than they could handle, and financial commitments were generally growing.

Second, since the greatest expansion in teacher education had to do with the production of secondary teachers, it was relatively easy to mesh teacher education degrees with conventional liberal arts degrees. Indeed, there is little evidence that the academic preparation of secondary teachers ever differed dramatically from that of liberal arts majors and even the academic preparation of elementary teachers more closely approximated the course pattern

of liberal arts majors than many critics have suggested (See Conant, 1963.).

Third, since teacher education majors, even during the 1950's and 1960's, were disproportionately drawn from the least academically able students on college campuses, liberal arts professors could enjoy the benefits of increased enrollments caused by education majors without suffering the stigma that is attached to admitting students who score poorly on measures of academic ability.

Finally, in the effort to update and upgrade experienced teachers who were perceived to be woefully underprepared or unprepared, the federal government, under the auspices of the NDEA and the NSF, provided stipends and other support intended to attract large numbers of teachers back to college campuses. Since the conditions of funding, especially from 1964 on, typically required the cooperative action of so-called "educationists" and "scholars in the disciplines," liberal arts faculties often found additional advantage to having educationists in their midst.

Just as the general social context has changed so has the context of higher education changed. First, during the 1950's and 1960's, the creation of new universities caused only minor distress on major university campuses. Indeed, given the overabundant supply of students, faculty on establishment university campuses could look to the emerging universities as sources of relief to pressures to lower their own standards. Today the competition between these new universities and more well established universities is growing increasingly intense.

Second, in spite of protestations to the contrary, many of the so-called emerging universities continued to be dependent on the

enrollment of persons who intended to be teachers (the first doctoral degrees offered on many of these campuses were EdDs in school administration). Thus, any cutback in enrollment in teacher education threatens established universities that are not dependent on teacher education for their sustaining power.

Third, major established universities only got into teacher education reluctantly, and many of the incentives they once had for this involvement are eroding. For example, there are few grants nowadays that require the cooperative action of "scholars in the disciplines" and "educationists." In addition, evidence in the overall decline of the academic ability of teachers makes association with teacher education even more stigmatizing now than it was in the past.

Fourth, interdepartmental competition for resources and students on campus encourages liberal arts faculties to be less tolerant toward "inferior departments" than they might have been in the past.

Finally, efforts to assure quality in teacher education have encouraged legislatures and state education agencies to attempt to establish standards for entrance into teacher education programs. Though the intent of such standards might be laudable, to many liberal arts professors, the imposition of such standards represents an encroachment of state bureaucracies on the academic perogatives of universities. The camel that gets his nose under the tent of education, it is argued, will eventually sleep in the Romance language department. For those who do not prefer to sleep with camels, the only option is to take down the tent.

Conclusions

Occupations must recruit new members from the talent pool available to them. As things now stand, the characteristics of the talent pool that will be available to teaching is largely controlled by institutions and agencies that have only a passing interest in the education of teachers (i.e., major universities) or those that have a vested interest in maintaining the status quo (i.e., schools that are dependent on filling their classes with students with little demonstrated aptitude for academic pursuits). There are several reasons this is so.

First, the primary shape of the organization of teacher education in America and the primary shape of the teaching occupation itself has to do with a real or perceived inadequate supply of competently trained teachers. Given the reality or the perception that there never have been enough good teachers to go around, the public schools have been encouraged to develop reward systems aimed more at recruiting new members than at maintaining or motivating persons once they had been successfully recruited. This is reflected in everything from the shortened salary scales, the lack of clear career staging and a general tendency to load all of the rewards at the front-end of a teaching career (See, for example, Lortie, 1975).

Second, given the perception that many teachers were marginally qualified, there was a tendency to impose administrative controls, and to give administrators more status and rewards than teachers. This lead to a bifurcated structure split between the many (teachers) and the few (administrators). Consequently there are

very few clearly differentiated roles for teachers. Even for administrators, the authority structure is not clearly articulated as a career ladder. Thus, the organizational structure of schools provides few meaningful ways of promotion and advancement, and what few ways there are require one to renounce teaching and become an administrator or quasi-administrator.

Third, historical conditions have created the image that teaching is a female role, whereas administration is a male role. Sex stereotypes have encouraged administrators to believe that teachers generally are inadequate managers and have encouraged teachers to believe that administrators are bosses rather than colleagues.

Fourth, in the quest for credentialling and in the drive to produce teachers with degrees while at the same time producing increasing quantities, there was a tendency to relegate teacher education to the newest institutions of higher education or those institutions of higher education without a clear reputation for quality. Furthermore, in those high prestige institutions where teacher education was taken on as a mission, the assignment to educate teachers was usually given to low status faculty members. For example, the supervision of student teachers is generally relegated to graduate assistants or assistant professors.

The net effect is to discourage careerism in teaching, encourage bureaucratic solutions to problematic situations, foster cynicism between teachers and administrators regarding each other's

intentions and lead to a lack of intellectual leadership in schools of education or in the public schools. In fact, there is much about schools and about teacher education that encourages non-intellectual approaches to problematic situations and fosters a lack of respect for those who prefer to think before they act. Surely, such conditions must be discouraging to the academically able and to those who are likely to become bored with routine. In addition, such conditions must discourage competent and confident individuals from pursuing a career that has little possibility for advancement or increasing responsibility.

Furthermore, it is mistaken to suggest that teacher education institutions are not selective. When compared with medicine, for example, more persons leave teacher education than do their counterparts in medical schools (90-95% of those who enter medical schools graduate). The problem, of course, is that there is little institutional selection involved in determining who will be teachers. Rather, it is a process of self-selection, and those who are most likely to select themselves as teachers are drawn from the least academically able college populations. It is, of course, difficult to determine the nature of the causal mechanisms involved here. Perhaps, there is something unusually unattractive about teaching to those with more proficiency for academic pursuits. More likely, however, the condition described has primarily to do with the fact that those with demonstrated academic competence have many occupational opportunities available to them than are

available to the less competent. Thus, in relative terms, those who are academically more proficient simply have more to lose by entering teaching, or perhaps conversely, those who are less academically proficient have more to gain.

There is, however, more here, for teaching does attract many persons who are academically quite proficient. For example, in our study (Vance and Schlechty, 1982), we found that 28% of those persons employed to teach were above the median for all college graduates on the SAT. Unfortunately we also found that public schools were no more likely to employ persons who scored above the median than below even when those who scored above the median sought teaching positions. There is some evidence, as Weaver (1979) notes, that schools do employ persons with better college grades. However, schools also employ persons disproportionately from nonselective institutions of higher education, and nonselective institutions of higher education also give higher grades to less academically able persons. Thus, the preference for better grades really shows very little in terms of selectivity for employment.

Furthermore, selection into teaching as a career is a process that continues long after the point of initial employment. Some studies indicate, for example, that those who are in the upper quarter of an entering cohort in terms of measured academic ability are twice as likely to leave as those who score in the lower quarter (Schlechty and Vance, 1981; Vance and Schlechty, 1982). Thus, whatever selectivity there is following entry into teaching tends to favor the academically less able.

Where To From Here

There seems to us to be little doubt that the future of public education in America depends in large part on the willingness of the men and women who are committed to quality public schools to forsake their short term personal interest for the long term improvement of public schools. There is an intellectual crisis in schools, and it will get worse unless fundamental reform occurs in the organization of schools and in the structure of the teaching occupation. The conditions of this reform are most threatening to those schools that now produce the majority of teachers, for the majority of teachers are produced by the schools with the lowest academic standards. To suggest that thse schools somehow raise their standards without first making teaching more attractive to the academically able is to once again punish the victims. The fact is that the institutions of higher education that now produced the teachers who will teach and find teaching satisfying are also the schools that have the lowest academic standards. In brief, institutions of higher education with low standards are providing the schools with precisely those people they are able to retain. This point should not be a point for delight or for derision on the part of professors in schools and departments of education on high prestige campuses. In fact, our analysis leads us to the view that professors of education on high prestige campuses may, if things don't soon change, be seeking employment on the campuses of less selective colleges, for the less selective departments of education are more likely to continue to exist than are the more selective ones. This leads us to suggest that it is in the long run interest of professors on high prestige campuses who want to

survive to turn their attention away from teacher education and toward the development of healthy management systems in schools. We also think that it is in the long term interest of weaker institutions of higher education to acknowledge that they served an important historical function but that the function they once served is no longer required. It is well past time that the special interests of institutions be put aside. The time has come when men and women of good will who are concerned about the future of public education acknowledge that past responses to educational problems have created dinosaur-like structures that will become extinct in the near future. The hope of the future is that the best ideas contained in present arrangements will evolve into new forms that are adaptive to emerging conditions.

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Ryans, D.G. Characteristics of Teachers. Washington, D.C.: American Council on Education, 1960.

Schlechty, P.C. Teaching and social behavior. Boston: Allyn & Bacon, 1976.

Schlechty, P.C. A proposal for reassigning responsibility and control for teacher education. Unpublished manuscript, 1979.

Schlechty, P.C., & Vance, V.S. Do academically able teachers leave education? The North Carolina case. Phi Delta Kappan, 1981, 63(2), 106-112.

The authors examine eight cohorts of beginning teachers in North Carolina from 1973 through 1980 to determine characteristics of those who enter, those who remain and those who leave education over time. The National Teacher Examination Weighted Common Examinations score is used as a measure for academic ability to establish ten rankings within each cohort. Each academic ranking within each cohort is examined in each subsequent year to determine who remains and who leaves education in North Carolina. Data on sex, race and academic ability is presented for each cohort. Results show (1) the academic ability of white females entering teaching has declined since 1973; (2) those entering teaching with the highest academic ability are the most likely to leave education early

and in the largest numbers, regardless of race, sex or entering year. The authors reason from the data that the decline of opportunities in education is of less significance than the expansion of employment opportunities in other segments of the economy.

Schwarzweller, H.K., & Lyson, T.A. Some plan to become teachers: Determinants of career specification among rural youth in Norway, Germany and the United States. Sociology of Education, 1978, 54, 64-49.

Sharp, L.M., & Hirshfield, S.B. Who are the new teachers? A look at the 1971 college graduates. Washington: Bureau of Social Science Research, 1975.

The authors examined 185,848 college freshmen in 1967 in 252 institutions from data supplied by the American Council on Education. Four years later, a follow-up study was conducted in order to describe changes in career plans during college and recruitment into teaching after graduation. They found that among students initially choosing education as a career, those high achievers from highly selective institutions defected from education at the greatest rate. Of those who applied for teaching jobs, those hired had a higher mean grade point average than those not hired. Those not hired attended more selective institutions although the median selectivity was greater for the entire graduating cohort than either those hired or those not hired. Teachers who voiced longer-term commitments to the occupation came from schools of lower selectivity and more modest personal circumstances. "Policy makers who are primarily concerned with recruiting 'the best and the brightest' into school systems will view these findings with alarm; those who are primarily eager to recruit sympathetic and service-oriented teachers will be pleased" (pp. 19-20).

Simpson, R.L., & Simpson, I.H. Women and bureaucracy in the semi-professions. In A. Etzioni (Ed.), The semi-professions and their organization. New York: The Free Press, 1969.

Smith, B.O. Pedagogical education: How about reform? Phi Delta Kappan, 1980, 62, 87-91.

Stinnett, T.M., Frady, E.N., & Pershing, G.L. A manual on certification requirements for school personnel in the United States. Washington: National Education Association, 1967.

Thorndike, R.L., & Hagen, E. Characteristics of men who remained in and who left teaching. New York: Columbia University, 1960 (ERIC Document Reproduction Service No. ED 002 902).

Vance, V.S. The ready, willing and academically able: A longitudinal study of retention and attrition among North Carolina's new classroom teachers from 1973 to 1980. Doctoral dissertation, University of North Carolina at Chapel Hill, 1981.

The author presents data on eight annual cohorts of beginning teachers entering teaching in North Carolina from 1973-1980 to show:

(1) the academic ability of white females entering teaching has declined since 1973; (2) those entering teaching with the highest academic ability are the most likely to leave education early and in the largest numbers regardless of race, sex or entering year. Given these trends, policy attempts to improve the quality of teachers in North Carolina are examined. North Carolina's Quality Assurance Program is critically reviewed for attending only to selection criteria and not considering means that would retain teachers with high academic ability.

In the absence of an empirically grounded explanation of why academically able teachers leave education, the author discusses economic, occupational, organizational and demographic factors theoretically related to attrition of the academically able. Policy recommendations aimed at restructuring the occupation, teacher training and the organization of schools are made.

Vance, V.S., & Schlechty, P.C. Who enters and who leaves teaching? The case of the high school graduating class of 1972. Forthcoming NIE Report, 1982.

Waller, W. The sociology of teaching. New York: Russell & Russell, 1961.

Weaver, T.M. Educators in supply and demand: Effects on quality. School Review, 1978, 86, 552-593.

This study examines the teacher surplus problem and the response of the profession as well as institutions of higher education to declining college job markets and what these conditions may hold for the quality of teachers and schools of education. A basic proposition guides this inquiry: "As market demand for new graduates in a given field declines, the quality of the applicant pool prepared to enter that field of study will also decline." Presenting comparative data on the decline of education as a major, teacher surplus estimates, age cohort population estimates, steep declines in SAT scores of eight teachers' colleges compared to the national average, steep ACT score declines in education compared to other fields of study and other relevant data leads Weaver to conclude: "Student action is based on a widely held belief: if there are no public school teaching jobs, there is no reason to attend a college of education."

Weaver, T.M. The need for new talent in teaching. Phi Delta Kappan, 1979, 61, 29-46.

The author reasons that declines in the birthrate and in undergraduate enrollments affect the selection process in education in three ways: (1) a decline in the job market in teaching; (2) a shift in student preferences away from the field of education and (3) a sharp decline in test scores of college bound students and enrolled freshmen who intend to study education as well as a pass-through of the score decline to graduating seniors and to those who find teaching positions. The author presents data on SAT scores, ACT scores, college grade point averages, GRE and NTE scores and vocabulary, reading and math scores from the National Longitudinal

Study of 1972 High School Seniors to question the ability of the educational system to recruit and select classroom teachers of high academic quality - as well as administration and educational researchers.

The author states his guiding assumption: "As market demand for new graduates in any given field declines, not only will the quantity of potential students decline but also the quality of the applicant pool prepared to enter that field of study. The key to this argument has been my assumption that higher education institutions will adapt to decline by selecting the best from a shrinking pool of talent but in so doing sacrifice absolute for relative standards."

Wolf, W. and Wolf, W. Teacher drop-outs - a professional lament. In Teaching in America, Anthony C. Riccio & Frederick R. Cyphert (Eds.), Columbus, Ohio: Charles E. Merrill, 1962.

Yuskiewicz, V.D., & Donaldson, W.S. Job satisfaction of the public school teacher: A function of subculture concensus with respect to pupil control ideology. Chicago: April, 1972. (ERIC Document Reproduction Service No. ED 061 178).

Zeigler, H. The Political life of American teachers. Englewood Cliffs, N.J.: Prentice-Hall, 1967.